

Preface

As computer systems have moved into user environments, the need to design systems that are easy to learn and easy to use has become clearly evident. One of IBM's most successful systems from a usability standpoint is the System/38. In our first paper, Botterill presents the design approaches that were used to develop the System/38 interface, which is effectively used by operations, systems, and user personnel. Although the system has extensive function, including full interactive capability, its design has met the objectives of ease of learning and ease of use. The approaches described should be beneficial in forming the basis for future usability designs.

Practical, common sense recommendations on how computers should interact with people are included in the essay by Dean. In addition to specific suggestions for message format and construction, the author discusses usability systems design considerations. His thoughts should be of considerable interest to those many system developers who are charged with building "user-friendly" systems.

The need to project capacity requirements in order to maintain acceptable service levels and response times is particularly crucial in on-line environments. The following two papers present approaches to planning capacity requirements for systems that use the IBM Customer Information Control System.

An analytical queuing model providing a methodology for performance and capacity planning of CICS-based systems is described by Deitch. After deriving the model to be used for analysis, the author provides specific examples using input from generally available data-gathering tools. A unique feature of this approach is its ability to forecast the incremental effect of changes in the availability of various resources that affect system performance. This feature may be applied in systems tuning, and in making the inherent resource trade-off decisions that are required to optimize performance. Although the model described in this paper has been used to analyze CICS/VS-based systems, the simulation techniques presented may be used to forecast requirements for any on-line system which provides the required resource usage information.

Much of the published work on capacity planning for on-line systems has addressed the problem of planning for the requirements of a single system. With the advent of the distribution of processing across multiple systems, capacity planning techniques must be expanded to support the new environment. The approach taken by ANCICS/VS, an internal IBM aid, to the simulation of systems using the CICS Intersystem Communications facility is described by Acker and Seaman. The paper provides insight into the CICS/VS distributed processing implementation through the presentation of an approach to its simulation. Included are an overview of the single-system model, a description of CICS/VS support for multiple sites, and the approach to modeling the multiple-site environment.

Since its inception, the IBM Information Management System has continuously evolved to meet new requirements. Much new function has been added to improve reliability, to enhance system management and control, and to provide improved data base and programming facilities. In addition, enhancements have been made in the IMS operating system interface to reduce resource usage and to improve performance. In 1977, McGee published papers in the *IBM Systems Journal* describing the function provided up to that time. Since then many new features have been added. The paper by Strickland, Uhrowczik, and Watts describes the new capabilities which have been implemented, up to and including Release 1.3 of IMS/VS.

Since 1975 the *Systems Journal* has made reprints of individual papers available to our readers. At the end of this issue is a listing of all reprints that are currently available, including a cumulative index for the years 1975-1981. Reprints may be ordered from IBM branch offices, using the order numbers listed.

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